

## Recombinant CXCL12a (SDF-1 $\alpha$ )

### ORDERING INFORMATION

| Catalog No. | Size   |
|-------------|--------|
| 50180P-5    | 5ug    |
| 50180P-20   | 20ug   |
| 50180P-50   | 50ug   |
| 50180P-100  | 100ug  |
| 50180P-1000 | 1000ug |

### RELATED PRODUCTS

|       |                                                        |
|-------|--------------------------------------------------------|
| #1009 | Anti-CXCR4 N-terminus Antibody                         |
| #1012 | Anti-CXCR4 2 <sup>nd</sup> Extracellular Loop Antibody |

### BACKGROUND

CXCL12a and CXCL12b, also known as Stromal Cell-Derived Factor 1 $\alpha$  and 1 $\beta$  (SDF-1 $\alpha$  and SDF-1 $\beta$ ), are small cytokines that belong to the intercrine family. Both forms of CXCL12 are produced by alternate splicing of the same gene. CXCL12 is strongly chemotactic for T-lymphocytes and monocytes, and it plays an important role in angiogenesis by recruiting endothelial progenitor cells (EPCs) from the bone marrow through a CXCR4 dependent mechanism. It is this function of CXCL12 that makes it a very important factor in carcinogenesis and the neovascularisation linked to tumor progression. CXCL12 also has a role in tumor metastasis where cancer cells that express the receptor CXCR4 are attracted to metastasis target tissues that release the ligand, CXCL12. In breast cancer, however, increased expression of CXCL12 is associated with a reduced risk of distant metastasis. By blocking CXCR4, a major coreceptor for HIV-1 entry, CXCL12 acts as an endogenous inhibitor of CXCR4-tropic HIV-1 strains. CXCL12 was shown to be expressed in many tissues in mice including brain, thymus, heart, lung, liver, kidney, spleen and bone marrow.

### DESCRIPTION

|                          |                                                                                                                                                           |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Source:</b>           | Recombinant human CXCL12a is produced in <i>E. coli</i> (accession no. P48061-2).                                                                         |
| <b>Protein Sequence:</b> | KPVLSYRCPCRFFESHVARANVKHLKILNTPNCALQIVARLKNNNRQV<br>CIDPKLKWIQEYLEKALNK                                                                                   |
| <b>Molecular Mass:</b>   | 7.98kDa by Mass Spec.                                                                                                                                     |
| <b>Purity:</b>           | >97%                                                                                                                                                      |
| <b>Activity:</b>         | EC50 = 0.62nM determined by Calcium Flux with human CXCR4 cells.<br>SPA Binding assay of CXCL12/SDF-1 $\alpha$ to CXCR7 (IC50=14pM) and CXCR4 (IC50=2nM). |
| <b>Endotoxin Level:</b>  | <0.01 EU per 1ug of protein by LAL method.                                                                                                                |
| <b>Form:</b>             | Lyophilized.                                                                                                                                              |
| <b>Carrier Protein:</b>  | None.                                                                                                                                                     |

### PREPARATION AND STORAGE

|                               |                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reconstitution:</b>        | Recommended at 100ug/ml in sterile distilled water.                                                                                                                                                             |
| <b>Stability and Storage:</b> | 12 months from date of receipt, -20°C to -70°C, as supplied.<br>1 month, 2°C to 8°C, under sterile conditions after reconstitution.<br>3 months, -20°C to -70°C, under sterile conditions after reconstitution. |

*For in vitro investigational use only. Not for use in diagnostic or therapeutic procedures.*